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(71) Applicants

Lionweld Limited

(Great Britain),

Marsh Road,

Middlesbrough,

Cleveland TS15JS

(72) Inventors

Allen John Milner

James Edward Fraser

(74) Agent and/or

Address for Service

C. A. S. Behrens and Co.,

5A Hereford Road,

Harrogate,

North Yorkshire HG1 2NP

(54) Anti-theft device for a wheeled vehicle

(57) An anti-theft device for a wheeled vehicle comprises two chocks for positioning respectively against the leading and trailing edges of a wheel. The chocks 11 are connected to one another in a telescopic manner by telescopic members 17, 18, 19, 20. The telescopic members 17, 19 of one chock are tubular to receive therein respective members 18, 20 of the other chock and the members 17 and 18 have holes to receive the lower end of a locking bar 23 which passes through the holes to prevent movement of the chocks away from the wheel once the device has been fitted, and locked to the members 17 and 18. Shields 32 and 35 prevent tampering with the lock or with the wheel nuts.

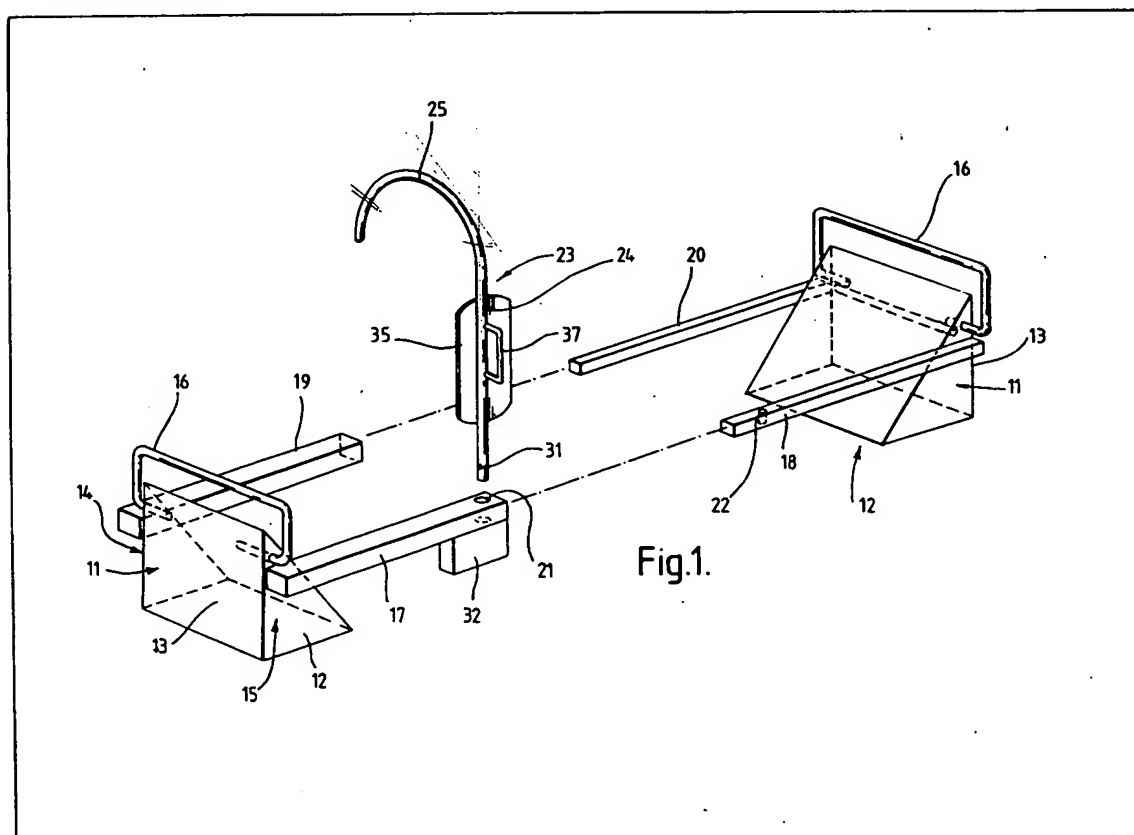


Fig.1.

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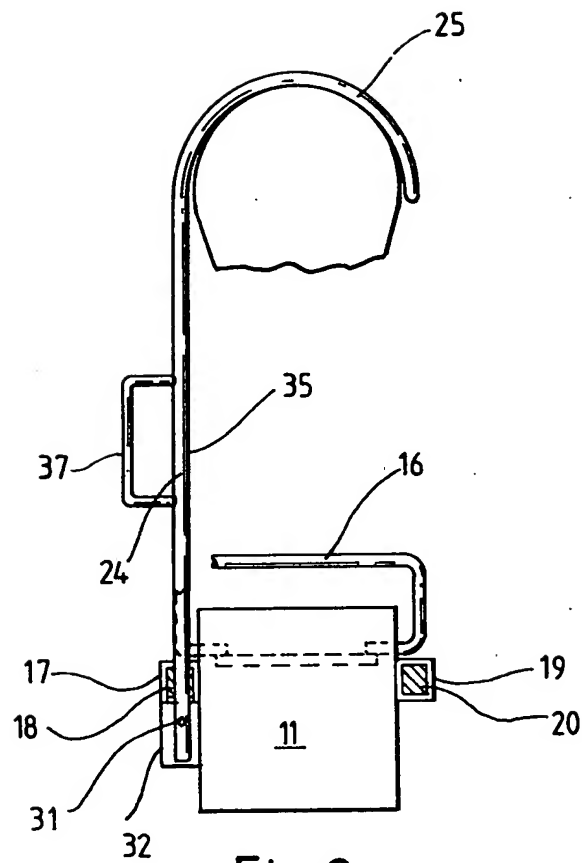


Fig. 2.

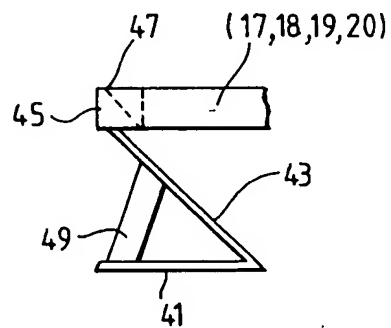


Fig. 3.

SPECIFICATION

Anti-theft device for wheeled vehicles

5 The present invention relates to a vehicle anti-theft device for wheeled vehicles, and particularly but not exclusively for motor cars and caravans.

Many such devices are already known and are in use but, at least in respect of the simpler ones
10 thereof, they have the disadvantage of not offering any appreciable defence against professional car thieves, in that, they can be readily rendered ineffective by use of suitable tools and are, in any event, incapable of preventing the vehicle from being
15 towed away.

It is an object of the present invention to provide a vehicle anti-theft device of a simple construction, but one which is nevertheless effective in preventing unauthorised removal of the vehicle.

20 According to the present invention there is provided an anti-theft device for a wheeled vehicle comprising a wheel chock and lockable means for fixing the chock in position against a wheel so that it can only be removed from the wheel when the said means is unlocked.

25 Preferably two wheel chocks are employed respectively for positioning against the leading and trailing edges of the wheel with the said means fixing both chocks in place in use of the device. Preferably, the said means effects this by connecting the two chocks together conveniently by a first connection passing, in use of the device, outboard of the wheel and
30 hooking means for passing inboard of the wheel. Preferably the said means connects the two chocks in a telescopic manner and includes arms connected to each of the chocks. Efficaciously, the or each telescoping arm carried by one of the chocks may be in the form of a rigid tube and the or each arm carried by the other of the chocks may be in the form
40 of a rod or tube to be received within a tube of an arm of the one chock. Alternatively the two arms are slideable within a separate tube on fitting the device to alter the distance between the chocks.

Where the two chocks are connected in a telescoping manner, said means may comprise a locking bar and the telescopic elements may be provided with complementary holes or notches to permit passage of the locking bar transversely through at least the outer telescopic element to engage and lock the
50 inner telescopic element or elements to prevent relative movement between the two arms. It is presently preferred that the locking bar comprise an end portion to pass, in use of the device, over the periphery of the wheel. The locking bar can pass
55 right through the telescopic elements, in which case the end remote from the said end portion can be provided with a transverse through bore to receive the hook of a padlock.

60 The device may comprise a shield disposed so that the lock employed with the means lies, in use of the device, between the shield and the wheel. The same shield may also be used, or a separate shield

provided, so that, in use of the device, the shield covers at least one wheel nut. Advantageously the shield is resistant to rotation once the device is fitted. This can be achieved by making the shield a sufficient size to overlap the said first connection.

The present invention will now be described, by way of example only, with reference to the accompanying drawings in which:—

70 Figure 1 is an exploded view of an anti-theft device according to the present invention,

Figure 2 is a transverse section through the device of Figure 1 and

75 Figure 3 shows a modified form of a member employed in the device of Figure 1.

Referring now to the drawings, the device illustrated in Figure 1 comprises a pair of wheel chocks 11 of identical construction. Each comprises a base plate 12 and an end plate 13, and lateral support plates 14 and 15 respectively, the latter being of triangular shape. The base plate of each chock is intended to stand on the surface on which the vehicle stands and is placed against a wheel so that
80 the free edge of the base plate lies in contact with, or closely adjacent to, the tyre of the wheel where it contacts the ground, and so that the upper edge of the end plate contacts the tyre of the wheel. The two chocks are intended, in use of the device, to be thus placed in contact with the tyre of a wheel, one at the leading edge of the tyre and one at the trailing edge of the tyre. To assist in handling the chocks, each has secured thereto a handle 16.

The illustrated device comprises lockable means
95 for fixing the chock in place against a wheel which, when unlocked will allow removal of the chocks. The means comprises two pairs of telescopic members 17, 18 and 19, 20 respectively with the members 18, 20 being carried by the respective side plates of one of the chocks and the members 17 and 19 being carried by the respective side plates of the other of the chocks. The members 17 and 19 are each tubular members, in this instance of rectangular cross section, and the members 18, 20 are each in the form
100 of bars or rods of complimentary cross-section. The dimensions of the members 18 and 20 enable them to slide in and out of the members 17 and 19 respectively. In use of the device, the members 19 and 20 are intended to pass on the inboard side of the wheel and the members 17 and 18 are intended to pass on the outboard side of the wheel.

The member 17 is formed with a through hole 21 in the upper and lower walls thereof (as seen in Figure 1) adjacent the end of the member remote from the chock. The member 18 is formed with a vertical transverse through bore 22 adjacent its end remote from the respective chock. By entering the member 18 into the member 17 (and consequently the member 20 into the member 19) the transverse through bore in the member 18 can be brought into alignment with the bores in the member 17. The means also comprises a locking bar 23 having a straight portion 24 and a curved or hooked end portion 25. When the members 18 and 20 are
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respectively telescoped in the members 17 and 19 to leave the holes in the members 17 and 18 in alignment as described above, the straight portion of the locking bar is passed through the aligned holes to extend from either side of the telescoped members thereby to prevent any relative movement therebetween. A sufficient length of the straight portion of the locking bar is passed through the telescoped members so that the hooked end portion 25 passes over and is hooked around a periphery of the tyre of the wheel. Adjacent its lower end, as seen in Figure 1, the locking bar comprises a transverse through bore 31 to receive the hook of a padlock.

The member 17 on the underside thereof adjacent the end receiving the member 18 has a short channel 32 secured thereto so as to shield the padlock when in place to make it difficult, if not impossible, to get at the padlock with a tool and thus deter attempts forcibly to remove the device from the wheel.

The locking bar also comprises a further shield 35 positioned so that when the device is fixed to a wheel, the shield obstructs the wheel studs, or at least some of them, to prevent a tool being applied to the wheel studs and thus to prevent removal of the wheel. To facilitate handling of the locking bar, it also has secured thereto a handle 37 on the side thereof opposite to that to which the shield is secured.

In use of the device, the chocks are placed against a wheel, in the manner described above, and the members 17, 20 are entered in the respective members 17, 19 until the holes 21, 22 are in alignment. The locking bar is then entered through the holes until the hooked portion 25 is hooked around the periphery of the tyre of the wheel. This brings the lower end of the locking bar, as seen in Figure 1, below the member 17 to permit the padlock to be fastened to the locking bar. It will be understood that the members 17 and 18 could be provided with a plurality of holes such as holes 21 and 22, spaced apart in the axial dimensions of the members, to permit the device to be used with wheels of different diameter, and that accordingly the locking bar could be provided with several transverse through bores, spaced apart in the axial length of the straight portion thereof, so that the padlock can be attached to the locking bar to prevent any substantial play thereof when fitted to the wheel.

When the illustrated device is in use on the wheel, it is not possible to rotate the wheel. Thus if a device as illustrated is fitted to, say, a rear wheel and a front wheel of a vehicle is would then become difficult to tow the vehicle. As intimated above, it also makes it difficult or impossible to remove the wheel and difficult to tamper with the padlock. Further, since it is not located internally of the vehicle, any attempts at tampering with it would be liable to observation. Therefore although of simple construction, it provides an effective means of securing a vehicle against theft.

The illustrated device may be made of metal parts preferably welded together.

An alternative form of chock is shown in Figure 3. In this form, the chock comprises a base plate 41 supporting an inclined plate 43 to lie in contact with

the tyre of a wheel; the inclined plate terminating at its top end as seen in Figure 3, with an upstanding portion 45 extending forwardly at each side of the plate to provide "ears" 47 to which the respective telescopic members are secured; and the inclined plate is supported from below by a pair of stays, one of which 49 is seen in Figure 3, secured at one end to the base plate and at the other end to the underside of the inclined plate. This form of chock is suitable for the wheels of small passenger cars.

In an alternative embodiment (not illustrated) each chock has a hook portion for passing inboard of the wheel to replace one pair of telescopic members 19, 20. This is formed by an arm attached to the inboard side plate of the chock in each case. A spacer bar is mounted to slide transversely of the arm and supports a further bar arranged substantially vertically to the inclined face of the chock. By sliding the spacer bar it is possible to move the said further bar across the chock to engage the inboard side of the tyre to adapt the device for different size wheels. The other pair of telescopic members 17, 18 is replaced by a respective arm on each chock, which arms are connected in a telescopic manner by a separate tube. When the device is fitted the two arms lie side by side having entered the tube from opposite sides thereof, and are slideable in the tube to adjust the distance between the chocks. The top of the tube has a slot in it and the two arms are notched on their upper surfaces in at least one position each. When the device is correctly fitted, notches in the arms line up with the slot in the tube, and means is provided to engage the slot and notches to lock the arms against separation.

This means may be a tongue at the bottom of an upright locking bar, which locking bar is hinged to the tube along a horizontal axis. As the locking bar becomes upright, the tongue passes through the slot in the tube and engages the notches. The top of the locking bar preferably carries a hook for engaging over the upper periphery of the tyre. The hook is preferably telescopically mounted on the locking bar so that the height of the hook is adjustable. In the preferred arrangement the locking bar is tubular and the hook is a bar of complimentary dimensions. The hook fits into the locking bar tube and the position, once adjusted, is lockable.

A shield for the wheel studs is hinged on the device and is closed into position, once the device has been fitted on the wheel. The shield carries on its inside a lug for locking the locking bar at the correct height, which lug engages respective holes in the two parts of the locking bar. The shield also has an aperture through which a bracket on the locking bar passes, when the shield is closed, and the bracket has a hole for receiving the hook of a padlock. The aperture on the shield is located behind a further bracket which shields the padlock once it is fitted.

CLAIMS

1. An anti-theft device for a wheeled vehicle comprising a wheel chock, and lockable means for fixing the chock in position against a wheel so that it can only be removed from the wheel when the said means is unlocked.

2. A device according to claim 1, wherein two

wheel chocks are provided respectively for positioning against the leading and trailing edges of the wheel; the said means fixing both chocks in place against the wheel.

5 3. A device according to claim 2, wherein the said means fixes the chocks in place by connecting them together.

4. A device according to claim 3, wherein the said means provides a first connection between the two
10 chocks to pass, in use of the device, inboard of the wheel, and a second connection to pass, in use of the device, outboard of the wheel.

5. A device according to claim 3 or 4, wherein the said means comprises a telescopic arrangement
15 with respective telescopic members carried by the two chocks.

6. A device according to claim 5, wherein the or each telescopic member carried by one of the chocks is in the form of a rigid tube, and the or each
20 telescopic member carried by the other chock is in the form of a rigid rod or tube to be received in a tube of a telescopic member of the one chock.

7. A device according to claim 5, wherein the said telescopic members comprise a respective arm
25 carried by each chock and a tube, the arrangement being such that, for use, the arms are slideably fitted into the tube from opposite sides.

8. A device according to claim 5, 6 or 7 wherein the said means includes a locking bar, and one set of
30 telescopic members is provided with complimentary holes or notches to permit passage of the locking bar transversely through at least the outer telescopic member to engage and lock the inner telescopic member or members to prevent relative movement
35 between the two arms.

9. A device according to claim 8, wherein the locking bar comprises an end portion to extend over the periphery of the wheel when the locking bar is in use.

40 10. A device according to claim 9, wherein the locking bar at the end thereof remote from the said end portion, bears a hole passing transversely therethrough to receive the hook of a padlock.

11. A device according to any of the preceding
45 claims wherein the device comprises a first shield so disposed that, in use of the device, at least one wheel stud of the wheel is covered by the said shield.

12. A device according to claim 11 as appendant to any of claims 1 to 8, wherein the said locking bar is
50 incorporated on the first shield which shield also carries a hooked end portion to extend over the periphery of the wheel when the device is in use.

13. A device according to any of the preceding claims, wherein the device comprises a second
55 shield disposed so that the lock employed with the said means lies, in use of the device, between the shield and the wheel.

14. A device according to claim 11 or 13, wherein the or each shield is carried by the said means.

60 15. A vehicle anti-theft device substantially as hereinbefore described, with reference to the accompanying drawings.